

State of Hawaii
DEPARTMENT OF LAND AND NATURAL RESOURCES
Engineering Division
Honolulu, Hawaii 96813

September 14, 2012

Board of Land and Natural Resources
State of Hawaii
Honolulu, Hawaii

**APPLICATION FOR A DLNR DAM SAFETY CONSTRUCTION/ALTERATION
PERMIT NO. 64 – OAHU RESERVOIR 530 (OA-0038)
DAM ALTERATION/REMOVAL, WAIAWA, HAWAII**

The Engineering Division (Division) hereby submits an application for your approval and authorization for the Chairperson and Department to stipulate conditions and issue a Dam Safety Construction/Alteration Permit for the subject application, "Alteration and Removal of the OAHU RESERVOIR 530", pursuant to Hawaii Revised Statutes Chapter 179D and current Administrative Rules.

APPLICANT:

Mr. Jo Anne Hanada
Kamehameha Schools
567 South King Street, Suite 617
Honolulu, HI 96813

LAND OWNER:

Same as Applicant

SUMMARY OF REQUEST:

Application for a Dam Safety Construction/Alteration Permit for the alteration and removal of the Oahu Reservoir 530, Waiawa, Hawaii. (See Exhibit 1)

LOCATION: Waiawa, Oahu, Hawaii, TMK: (1) 9-6-004:024 (See Exhibit 2)

BACKGROUND:

Oahu Reservoir 530 was constructed around 1935 to store water for irrigating sugar cane fields. No documentation relating to the original design, construction, or subsequent repair or maintenance work is available for this structure.

DESCRIPTION:

The reservoir will be removed by the removal of the embankment with a bottom width of 20 feet and a side slope of 2H:1V. This will result in an approximately 200 foot long channel spanning the distance from the original reservoir bottom to the natural gulch downstream.

The completion of this repair will result in lowering the effective height and volume capacity of the dam such that it will fall below the requirements that satisfy the definition of a regulated dam, pursuant to Hawaii Revised Statutes Chapter 179D. (See Exhibit 3)

September 14, 2012

CHAPTER 343-HRS – ENVIRONMENTAL ASSESSMENT:

The project is entirely on privately owned lands and does not trigger the requirement for completion of an environmental assessment. (See Exhibit 4 for evaluation)

REMARKS:

The applicant (Kamehameha Schools) and their Engineering consultant, R. M. Towill Corporation, have completed a basis of design, plans and specifications and requests for the approval of a dam safety construction/alteration permit. The Division has reviewed the documents and concluded that it is sufficient for its intended purposes. Staff recommends approval of this permit application with the Dam Safety Permit General Conditions. (See Exhibit 5)

RECOMMENDATION:

That the Board:

1. Authorize the approval and issuance of the Dam Safety Construction/Alteration Permit for this project; and
2. Direct the Chairperson to issue a dam safety permit for the alteration and removal of the Oahu Reservoir 530 (DLNR Dam Safety Construction/Alteration Permit No. 64) subject to such other terms and conditions as may be prescribed by the Chairperson to best serve the interests of the State.
3. Authorize the Department to oversee performance of the permitted work and take appropriate action including but not limited to issuance of fines and/or revocation of the permit, if necessary.
4. Authorize the Department to remove this dam from dam safety regulatory inventory and the requirements of Hawaii Revised Statutes Chapter 179D, upon satisfactory completion of the construction project.

Respectfully submitted,


CARTY S. CHANG
Chief Engineer

APPROVED FOR SUBMITTAL:


WILLIAM J. AILA, JR.
Chairperson

- Exhibit(s):
1. Owner Permit Application
 2. Location map
 3. Construction Drawing pages
 4. Chapter 343-HRS Review
 5. General Permit Conditions

State of Hawaii
 BOARD OF LAND AND NATURAL RESOURCES
 Department of Land and Natural Resources
 Engineering Division

APPLICATION FOR APPROVAL OF PLANS AND SPECIFICATIONS FOR CONSTRUCTION,
 ENLARGEMENT, REPAIR, ALTERATION, OR REMOVAL OF A DAM

Date of Application: February 3, 2012

Applicant:

Contact Name: Jo Anne Hanada

Firm./ Company: Kamehameha Schools

Mailing Address 567 N. King Street, Suite 617, Honolulu, HI 96813

Telephone: (808) 534-3977

Fax: (808) 534-3848

Email: johanada@ksbe.edu

The Applicant hereby applies to the Board of Land and Natural Resources for the approval of the attached plans and specification for the Oahu Reservoir 530, ID No. HI00038, Dam Breach Plan (construction, etc.) in accordance with Chapter 179D HRS (as amended by Act 262, SLH 2006), and subject to the provisions, conditions, and limitations of the current Hawaii Administrative Rules and various DLNR dam safety guidelines.

Accompanying this application are:

(please check)

1. Filing fee (\$25.00) (Waived for government agencies)
2. Three (3) copies of the Detailed Cost Estimate
3. Three (3) copies of the Final Design Report
4. Three (3) copies of the Plans
5. Three (3) copies of the Specifications
6. Proposed Construction Schedule
7. Supporting documents:
 - Drainage Report
 - Exhibit 1, Reservoir 530 Location
 - Exhibit 2, Reservoir 530 Property Boundaries

Included in Design
Report (Item 3)

x

x

x

x

x

x

x

NAME OF STRUCTURE: Oahu Reservoir 530, ID No. HI00038

DAM OR RESERVOIR LOCATION: S. of Waiawa Correctional Facility, approx. 2 miles upstream of Waipahoehoe

See Exhibit 1.

Island: Oahu

Tax Map Key: (1) 9-6-004: 024 See Exhibit 1.

Attach USGS topographic map (scale 1" = 2000') and property tax map (showing location access to site, proposed work)

State Land Use District: See Exhibit 1.
x Agriculture x Urban Rural Conservation

BRIEF DESCRIPTION OF WORK TO BE PERFORMED

Breach of the earthen dam structure and decommissioning of associated reservoir. A new access road will be constructed.

EXHIBIT 1

TECHNICAL INFORMATION:

DLNR-Dam Safety-Sheet 2

1. Drainage Area 0.10 sq. miles or 64 acres
2. Classification of Dam Dam Size: INTERMEDIATE; Hazard Classification: High Hazard
3. Type of Structure Earthen Dam
4. Elevation-Area-Capacity Data:

	Elevation	Surface Area (acres)	Total Storage Volume (acre-feet)
Natural Streambed	~506'		
Primary Spillway	544.8' (lft abut); 546 (rt abut)	2.5	30
Secondary Spillway	N/A		
Top of Dam	550'	3	53.6
Design Water Level	540'		
Invert of Drain	Unknown		
5. Spillway Details (Type, Dimensions, Material)
Primary: Two 36-inch diameter concrete pipes; one at each abutment; upstream
~~Secondary:~~ channel associated with reservoir; downstream channel with irrigation ditch
6. Purpose of Structure Impoundment for Irrigation Water
(water supply, irrigation, recreation, real estate development, etc.)
7. Attach rainfall and stream flow records, and flood-flow records and estimates (as accurately as may be readily obtained) See Drainage Report, _____

ADDITIONAL INFORMATION

1. Primary Owner Contact (if different from applicant) (Same as Applicant)
Owner Company or Entity: _____
Mailing Address _____
Telephone: _____ Fax: _____ Email: _____
2. Registered Hawaii Professional Engineer who prepared the plan Greg Hiyakumoto, P.E.
Mailing Address 2024 N. King Street, Suite 200, Honolulu, HI 96819
Registration No. 6662-C, Hawaii
Telephone: 842-1133 Fax: 842-1937 Email: gregh@rmtowill.com
3. Registered Professional Engineer to be responsible for inspection during construction _____
Greg Hiyakumoto, P.E.
4. Contractor (If known) TBD
Mailing Address _____
Telephone: _____ Fax: _____ Email: _____
5. List all other permits applications submitted to other governmental agencies:
Grading Permit (DPP, City & County); NPDES NOI-C (Dept. of Health, CWB)
6. Anticipated effect of proposed structure on natural environment: N/A

7. List all other parties that have ownership or other interest on the parcels where the dam and reservoir are located and identify their interest in the property. The Owners herein listed below concur with the work proposed within this application by the applicant and by his/her signing hereto, the owner of the land extends to the Board of Land and Natural Resources, and its designated representatives, a right-of-entry onto the project site to conduct any investigations or inspections required in compliance with the provisions of Chapter 13-190, Hawaii Administrative Rules. (Submit additional copies of this sheet should there be more owners) See Attached

See Attached

(Signature of Owner)

(Address / Interest in Dam or Reservoir)

(Signature of Owner)

(Address / Interest in Dam or Reservoir)

(Signature of Owner)

(Address / Interest in Dam or Reservoir)

(Signature of Owner)

(Address / Interest in Dam or Reservoir)

(Signature of Owner)

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(Signature of Owner)

(Address / Interest in Dam or Reservoir)

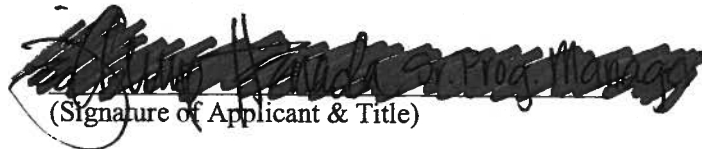
(Signature of Owner)

(Address / Interest in Dam or Reservoir)

(Signature of Owner)

(Address / Interest in Dam or Reservoir)

I, Jo Anne Hanada, the applicant, hereby certify that the information herein is true and factual to the best of my knowledge. Signing below indicates that the applicant understands that, if the permit requested is granted by the Board of Land and Natural Resources, the proposed work is to be initiated and completed within two (2) years of the approval date, unless specifically permitted in the approved permit terms and conditions.



(Signature of Applicant & Title)
Date: 4/6/12

Attachment to State of Hawaii
Board of Land and Natural Resources
Department of Land and Natural Resources
Engineering Division

Application for Approval of Plans and Specifications for Construction,
Enlargement, Repair, Alteration, or Removal of a Dam

Oahu Reservoir 530, ID No. HI00038, Dam Breach Plan

This application has been executed by or on behalf of the Trustees of the Estate of Bernice Pauahi Bishop in their fiduciary capacities as said Trustees, and not in their individual capacities. No personal liability or obligation under this application shall be imposed or assessed against said Trustees in their individual capacities.

TRUSTEES OF THE ESTATE OF BERNICE PAUHAH
BISHOP



LANCE KEAWE WILHELM



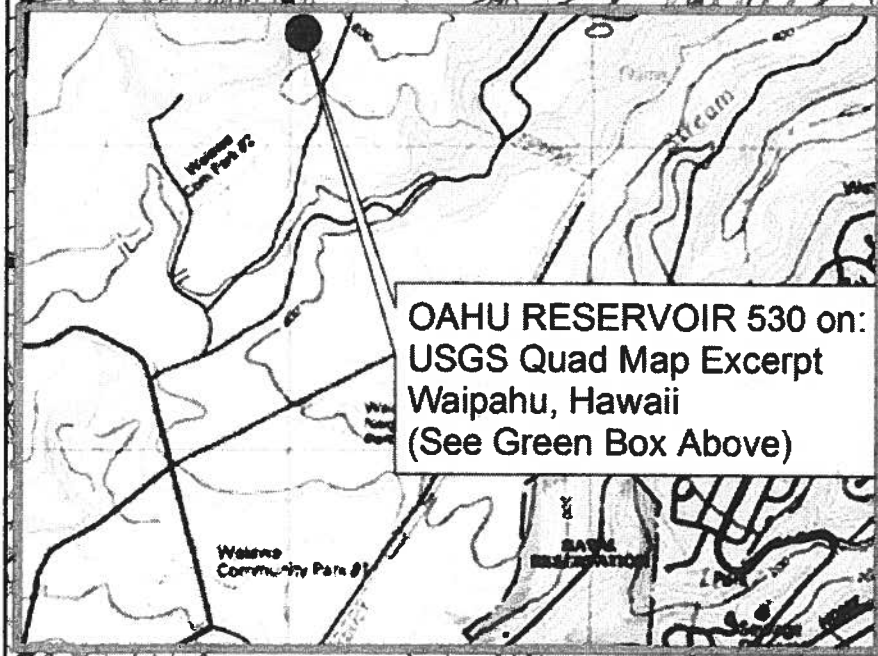
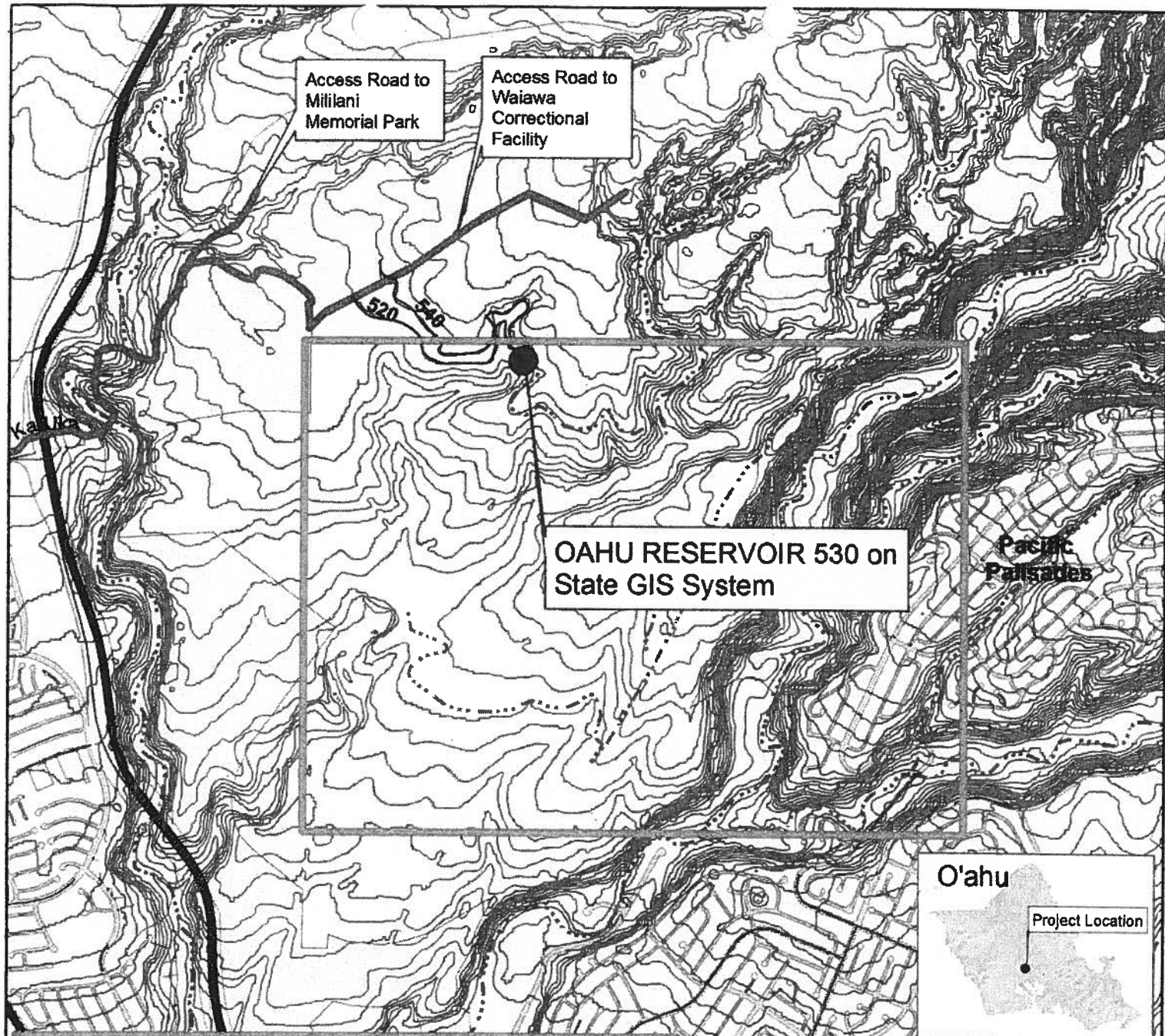
MICAH A. KANE



CORBETT AARON KAMOHAIOKALANI KALAMA

Owner

Address: 567 South King Street, Suite 200
Honolulu, Hawaii 96813



Legend

— Stream

540 Elevation of 20-foot Contour

URBAN State Land Use District

AGRICULTURAL State Land Use District

Layer Source: State of Hawaii GIS

EXHIBIT 1

RESERVOIR 530 LOCATION

Oahu Reservoir 530, ID NO. HI00038

Dam Breach Plan

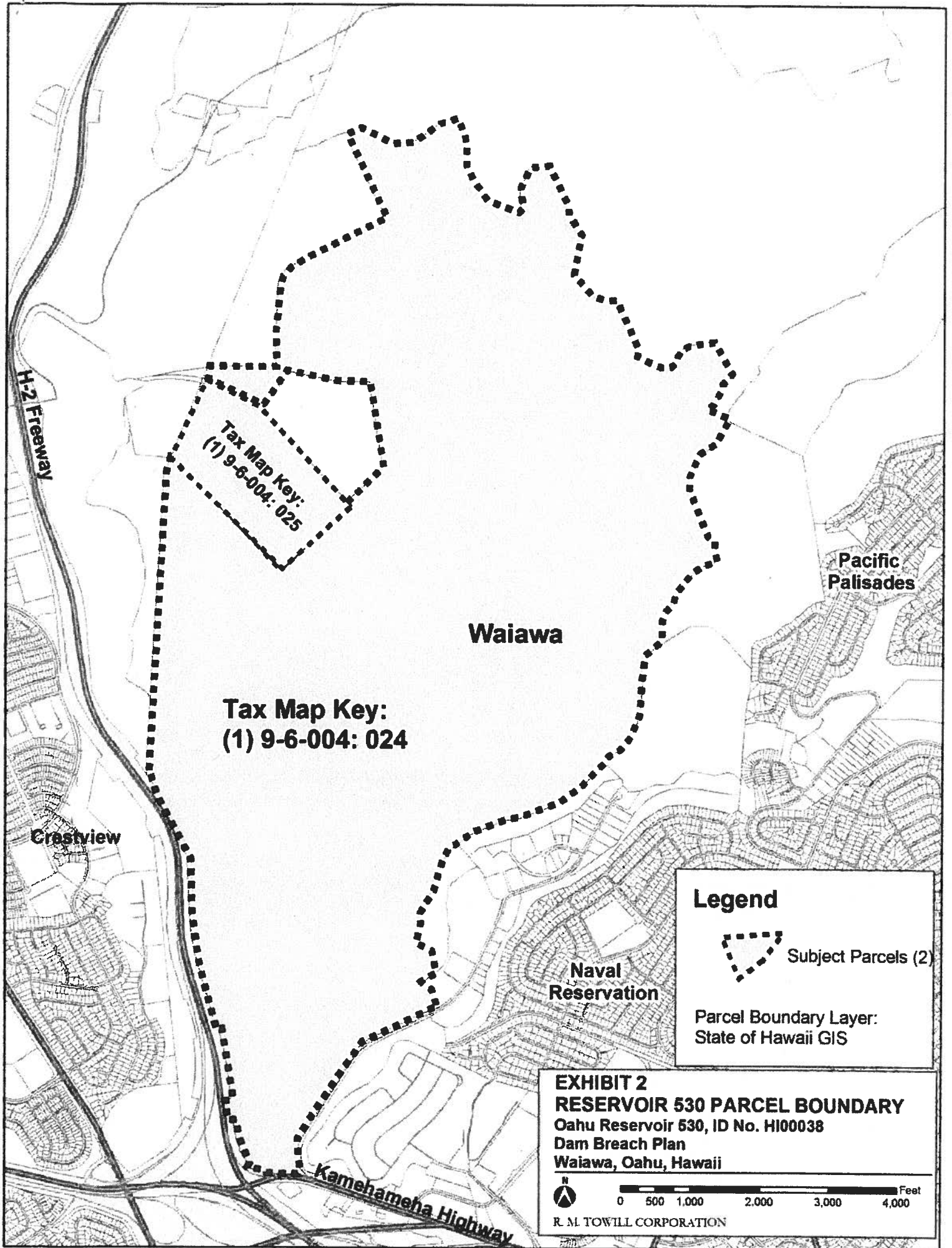
Waiawa, Oahu, Hawaii



0 500 1,000 2,000 3,000 4,000 Feet

R. M. TOWILL CORPORATION

EXHIBIT 2



OAHU RESERVOIR 530

ID NO. HI0038
DAM BREACH PLAN

WAIAWA , OAHU , HAWAII
TAX MAP KEY : 9-6-004: 024

[CONSTRUCTION PLAN FILE NO. 2012/CP-31]

CONCLUSIONS

KAMEHAMEHA SCHOOLS
567 SOUTH KING STREET, SUITE 200
HONOLULU, HAWAII 96813

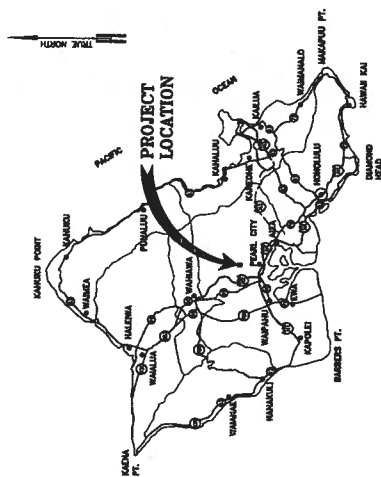
Prepared by:



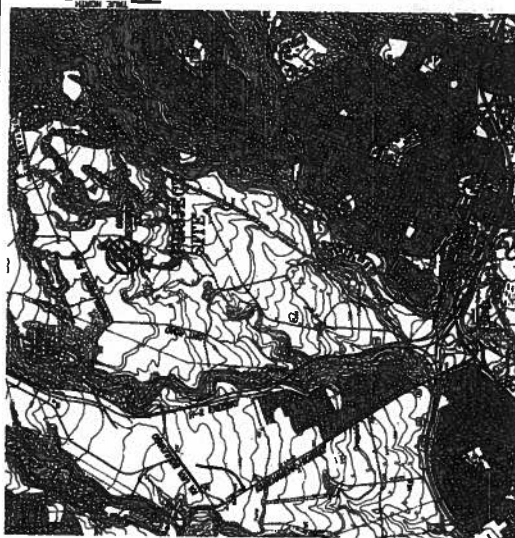
R. M. TOWILL CORPORATION

SINCE 1930

Planning • Engineering • Environmental Services • Photogrammetry • Surveying • Construction Management



VICINITY MAP



LOCATION MAP

DO NOT TO SCALE

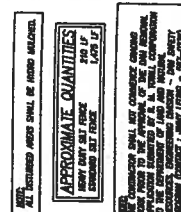
SHEET	NUMBER	DESCRIPTION
1	7-1	TITLE SHEET & INDEX
2	C-1	NOTES DETAILS
3	C-2	GENERAL SITE PLAN
4	C-3	PAVING CONTROL PLAN - RAIN DESIGN SITE
5	C-4	LANDSCAPE CONTROL PLAN - LANDSCAPING SITE
6	C-5	SITE SECTIONS

APPROVED:

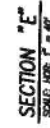
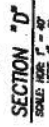
DATE 3/27/2012

DIRECTOR, DEPARTMENT OF PLANNING & PERMITTING
CITY & COUNTY OF HONOLULU
(FOR SITE GRADING ONLY)

for
DIRECTOR, DEPARTMENT OF PLANNING
CITY & COUNTY OF HONOLULU
(FOR SITE GRADING ONLY)



INSET (RIPRAP BASIN)
SCALE 1" = 20'



CHAPTER 343 ANALYSIS

Project Name: Oahu Reservoir 530

Reviewer: Jimmy Leung

Date of Review: 9 August, 2012

TRIGGERS (HRS §343-5(a))

Is there an "action" that triggers the need for an EA?

Action

An "action" is a program or project:

X Initiated by an agency

 Initiated by an "applicant"

Any person who, pursuant to statute, ordinance, or rule, officially requests "approval" for a proposed action (discretionary consent required from an agency prior to actual implementation of an action, distinguished from a ministerial consent)

 Statute

 Ordinance

 Rule

Triggers

Yes No

 X Use of state or county lands or funds

 X Use of conservation district lands

 X Use within shoreline setback area

 X Use of historic site designated on the National or Hawaii registers

 X Use of land in the Waikiki Special District

 X Amendment to county general plan which would result in designations other than agriculture, conservation, or preservation unless initiated by a county

 X Reclassification of conservation lands by the Land Use Commission

 X Construction or modification of helicopter facilities that may affect conservation district lands, a shoreline setback area, or a historic site

 X Wastewater facilities, waste-to-energy facility, landfill, oil refinery, or power-generating facility

Triggers summary:

Is there a trigger?

If Yes, Go to Exemptions

If No, No Environmental Assessment required

EXEMPTIONS

Two sources of exemptions: exemption lists or exemptions contained in HAR §11-200-8(a)

1. Exemption Lists

 Division exemption lists

 Department-wide exemption list

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Explain (which exemption list, which exemption, how it applies):

2. HAR §11-200-8(a) exemptions

- _____ Operations, repairs, or maintenance of existing structures, facilities, equipment, or topographical features, involving *negligible or no expansion or change of use* beyond that previously existing
- _____ Replacement or reconstruction of existing structures and facilities where the new structure will be located generally on the same site and will have *substantially the same purpose, capacity, density, height, and dimensions* as the structure replaced
- _____ Construction and location of a single, *new, small facilities* or structures and the alteration and modification of the same and installation of new, small, equipment and facilities and the alteration and modification of same, including, but not limited to:
 - (a) *Single family residences less than 3,500 square feet* not in conjunction with the building of two or more such units;
 - (b) Multi-unit structures designed for *not more than four dwelling units* if not in conjunction with the building of two or more such structures;
 - (c) Stores, offices, and restaurants designed for total occupant load of *twenty persons or less* per structure, if not in conjunction with the building of two or more such structures; and
 - (d) Water, sewage, electrical, gas, telephone, and other essential public utility services extensions *to serve such structures* or facilities; accessory or appurtenant structures including garages, carports, patios, swimming pools, and fences; and acquisition of utility easements
- _____ *Minor alterations* in the conditions of land, water, or vegetation
- _____ Basic data collection, research, experimental management, and resource evaluation activities that *do not result in a serious or major disturbance* to an environmental resource
- _____ Construction or placement of *minor structures accessory* to existing facilities

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- _____ *Interior alterations* involving things such as partitions, plumbing, and electrical conveyances
- _____ Demolition of structures, *except* those structures located on any *historic site* as designated on the National or Hawaii registers
- _____ Zoning variances *except shoreline* set-back variances
- _____ Continuing administrative activities including, but not limited to purchase of supplies and personnel related actions; and
- _____ Acquisition of land and existing structures, including single or multi-unit dwelling units, for the provision of *affordable housing*, involving *no material change of use* beyond that previously existing, and for which the *legislature has appropriated* or otherwise authorized *funding*

Explain (how the exemption indicated above applies):

See attached

Exemptions summary:

Does the Project qualify for an exemption? Yes ____ No ____

If Yes, Exemption noted above

If No, Project requires Environmental Assessment

CUMULATIVE IMPACT

Exemptions are inapplicable when the cumulative impact of planned successive actions in the same place, over time, is significant, or when an action that is normally insignificant in its impact on the environment may be significant in a particularly sensitive environment.

Additional Notes

DAM SAFETY PERMIT GENERAL CONDITIONS

APPROVAL OF PLANS AND SPECIFICATIONS FOR DAM AND RESERVOIR CONSTRUCTION, ENLARGEMENT, REPAIR, ALTERATION OR REMOVAL

The following General Conditions shall be adhered to for all Dam Safety permits unless otherwise authorized in writing.

1. Actual construction, enlargement, repair, alteration or removal shall be completed within 5 years of issuance of the permit application approval unless an extension authorized in writing by the Board is issued.
2. Prior to the start of work the owner or applicant shall provide a construction engineer to ensure compliance with the approved plans and specifications and who shall have ultimate responsibility for the supervision of all inspection tasks. The construction engineer may assign some inspection tasks to a duly authorized agent under the construction engineer's supervision. The engineer shall be licensed in the State of Hawaii.
3. The construction engineer shall maintain a record of construction that at a minimum, shall include, daily activity, and progress reports, all test results pertaining to construction; photographs sufficient to provide a record of foundation conditions and various stages of the construction through completion, all geologic information obtained; and construction problems and remedies.
4. A construction quality assurance plan shall be prepared and submitted to the Department for approval prior to the start of construction, which details the minimum requirements of the construction engineer's observation of construction.
5. A construction schedule, which includes the notice to proceed date and estimated project duration and a construction emergency action plan shall be submitted prior to the preconstruction meeting.
6. A preconstruction meeting shall be held subsequent to submitting the quality assurance plan, construction schedule and construction emergency action plan, but not later than 14 days prior to the start of construction. All parties actively involved in the construction should be requested to attend, such as the dam owner, the design engineer, the construction engineer, the contractor and the Department.
7. The Department shall be notified 5 calendar days prior to the commencement of construction.
8. Any changes from the approved plans and specifications shall be approved by the design engineer and a change order, including details and supporting calculations, must be provided to the Department. Major changes must be submitted in writing with supporting documentation and approved in writing by the Department. No work shall be initiated until the approval by the Department or Board is received. Minor changes may be transmitted verbally and approved by the Department verbally provided that documentation of the change is provided to the Department within 10 days of the approval.

9. For new dam construction and for dams and reservoirs that have lowered the water level or have been drained to facilitate construction, the construction engineer shall file and obtain approval of a filling plan with the Department. The applicant/owner shall not proceed with the filling of the reservoir until it receives permission from the Department. The construction engineer shall provide documentation of monitoring during the filling operation.
10. Prior to the filling of the reservoir, the construction engineer shall submit one copy each of the approved Operations Manual and the approved Emergency Action Plan for the facility upon completion of the project as applicable.
11. The construction engineer shall give the Department at least ten days advanced notice of initial materials placement of the dam's foundation, in the cutoff trench, outlet backfill, outlet foundation, and any appurtenance requested by the Department in the approval of the plan for construction observation, to allow for observation by the Department.
12. Notice of substantial completion shall be issued by the construction engineer to the Department stating that the permitted improvements are functionally complete such that filling of the reservoir can be initiated with an approved filling plan.
13. The construction engineer shall give the Department fifteen (15) calendar days advance written notice prior to the project's final construction inspection. The construction engineer shall coordinate with the Department to conduct this inspection in the presence of the Department's dam safety personnel.
14. The construction engineer shall provide notice at least ten (10) days prior to initiating filling the reservoir, unless agreed at the final inspection.
15. If conditions are revealed which will not permit the construction, enlargement, repair, alteration, or removal of a safe dam or reservoir, the application for approval for construction, enlargement, repair, alteration, or removal shall be revoked.
16. A topographic survey of completed work including all monuments, inverts, crest alignment, spillways, and significant appurtenant features, when required by the Department shall be completed.
17. The applicant/owner shall utilize appropriate erosion control best management practice measures during construction to minimize turbidity (such as scheduling of work during period of low stream flow) and prevent debris and construction materials, including concrete, petroleum products, and other pollutants from enter the waters of the State. Construction related water and debris should be properly disposed of in a legal and environmentally safe manner and in accordance with the Department of Health and other Federal regulations.
18. The applicant/owner shall submit a copy of the dam safety application and the plans and specifications of the proposed improvements to the County Engineer of the County for which the dam resides for compliance with County codes.
19. Within fifteen (15) calendar days of completing the project, the applicant/owner or its representative shall provide the Department with a confirmation letter of compliance, signed and stamped by the construction engineer, indicating that the construction

was completed in accordance to approved plans and specifications including any field changes. The construction engineer shall submit the remaining construction completion documents which may include, but not be limited to, as-constructed drawing, final construction report, topographic survey, record of the location of permanent monuments, log of recorded water levels and other readings from the refilling operation, long-term instrumentation monitoring plan, and affidavit showing the actual cost of construction including engineering costs, within 60 calendar days of the submittal of the final construction inspection.

20. Construction completion documents and the construction engineer's certification shall be provided to the Department within 60 days of the final construction inspection. The Department will review the submitted items and furnish acceptance or denial within 60 days of receipt of satisfactorily completed construction completion documents and close out the dam safety permit.
21. This permit does not relieve the applicant/owner of their obligations to comply with all applicable Federal, State, and County regulations.